UNIT TERMINAL OBJECTIVE

5-5 At the completion of this unit, the EMT-Intermediate student will be able to utilize assessment findings to formulate a field impression and implement a treatment plan for the patient with a toxic exposure.

COGNITIVE OBJECTIVES

At the completion of this unit, the EMT-Intermediate student will be able to:

- 5-5.1 Identify appropriate personal protective equipment and scene safety awareness concerns in dealing with toxicologic emergencies. (C-1)
- 5-5.2 Identify the appropriate situations in which additional non-EMS resources need to be contacted. (C-1)
- 5-5.3 Review the routes of entry of toxic substances into the body. (C-1)
- 5-5.4 Discuss the role of the Poison Control Center in the United States. (C-1)
- 5-5.5 List the toxic substances that are specific to your region. (C-1)
- 5-5.6 Identify the need for rapid intervention and transport of the patient with a toxic substance emergency. (C-1)
- 5-5.7 Review the management of toxic substances. (C-1)
- 5-5.8 Differentiate among the various treatments and pharmacological interventions in the management of the most common poisonings by inhalation, ingestion, absorption, and injection. (C-1)
- 5-5.9 Utilize assessment findings to formulate a field impression and implement a treatment plan for patients with the most common poisonings by inhalation, ingestion, absorption, and injection. (C-3)
- 5-5.10 Review poisoning by overdose. (C-1)
- 5-5.11 Review the signs and symptoms related to the most common poisonings by overdose. (C-1)
- 5-5.12 Correlate the abnormal findings in assessment with the clinical significance in patients with the most common poisonings by overdose. (C-3)
- 5-5.13 Differentiate among the various treatments and pharmacological interventions in the management of the most common poisonings by overdose. (C-3)
- 5-5.14 Utilize assessment findings to formulate a field impression and implement a treatment plan for patients with the most common poisonings by overdose. (C-3)

AFFECTIVE OBJECTIVES

5-5.15 Appreciate the psychological needs or victims of drug abuse or overdose. (A-2)

PSYCHOMOTOR OBJECTIVES

None identified for this unit.

DECLARATIVE

- I. General toxicology, assessment and management
 - A. Types of toxicological emergencies
 - 1. Unintentional poisoning
 - a. Dosage errors
 - b. Idiosyncratic reactions
 - c. Childhood poisoning
 - d. Environmental exposure
 - e. Occupational exposures
 - f. Neglect/ abuse
 - 2. Drug/ alcohol abuse
 - 3. Intentional poisoning/ overdose
 - a. Chemical warfare
 - b. Assault/ homicide
 - c. Suicide attempts
 - B. Provider safety and resources identification
 - 1. Need for appropriate personal protective equipment and scene safety awareness
 - a. Airway protection
 - b. Body surface absorption isolation
 - c. Specialized equipment
 - 2. Need for additional resources
 - a. Hazardous Materials Teams
 - b. Police
 - c. Fire
 - d. Rescue
 - 3. Equipment and environmental decontamination
 - C. Use of Poison Control Centers
 - D. Routes of absorption
 - 1. Ingestion
 - Inhalation
 - Injection
 - 4. Absorption
 - E. Poisoning by ingestion, inhalation, injection, and absorption
 - Examples
 - 2. Anatomy and physiology review
 - a. Absorption
 - b. Distribution
 - 3. Assessment findings
 - 4. General management considerations
 - F. Geographically-specific toxic emergencies
 - 1. Discuss regional variances in possible toxic exposures
 - 2. Examples
 - a. Venomous snakes, spiders, sea creatures
 - b. Chemical manufacturing/ transportation
 - G. Specific toxicology, assessment, and management
 - 1. Definition/ advantages
 - a. Grouping of toxicologically-similar agents
 - b. Useful for remembering the assessment and management of toxicological emergencies

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- c. Does not consider how or why the toxin has been introduced to the body
- d. Be sure to include the general management based on route of entry in addition to specific treatments
- 2. Cholinergics
 - Common causative agents pesticides (organophosphates, carbamates) and nerve agents (sarin, Soman)
 - b. Assessment findings
 - (1) Headache
 - (2) Dizziness
 - (3) Weakness
 - (4) Nausea
 - (5) SLUDGE (Salivation, Lacrimation, Urination, Defecation, GI upset, Emesis)
 - (6) Bradycardia, wheezing, bronchoconstriction, myosis, coma, convulsions
 - (7) Diaphoresis, seizures
 - c. Management
 - (1) Decontamination
 - (2) Airway and ventilation
 - (a) Aggressive airway management
 - (3) Circulation
 - (4) Pharmacological
 - (a) Atropine
 - (b) Diazepam
 - (c) Activated charcoal
 - (5) Non-pharmacological
 - (6) Transport considerations
 - (a) Appropriate mode
 - (b) Appropriate facility
 - 7) Psychological support/ communication strategies
- Anticholinergic
 - a. Common causative agents
 - b. Assessment findings
 - c. Management
 - (1) Airway and ventilation
 - (2) Circulation
 - (3) Pharmacological
 - (4) Non-pharmacological
 - (5) Transport considerations
 - (a) Appropriate mode
 - (b) Appropriate facility
 - (6) Psychological support/ communication strategies
- 4. Narcotics/ opiates
 - Common causative agents heroin, morphine, codeine, meperidine, propoxyphene, fentanyl
 - b. Assessment findings
 - (1) Euphoria
 - (2) Hypotension
 - (3) Respiratory depression/ arrest
 - (4) Nausea

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			(5)	Pinpoint pupils
			(6)	Seizures
			(7)	Coma
		C.	Manage	
		O.		Airway and ventilation
				Circulation
			(3)	Pharmacological
			(-)	(a) Naloxone- opiate specific antidotal therapy
			(4)	Non-pharmacological
			(5)	Transport considerations
				(a) Appropriate mode
				(b) Appropriate facility
			(6)	Psychological support/ communication strategies
	5.	Carbor	n monoxid	de
		a.	Source	
		b.		on causative agents
		C.		acodynamics
		d.		acokinetics
		e.		ment findings
		f.	Manage	
			` '	Airway and ventilation Circulation
			(2)	
			(3) (4)	Pharmacological Non-pharmacological
			(4)	(a) Hyperbaric treatment
			(5)	Transport considerations
			(5)	(a) Appropriate mode
				(b) Appropriate facility
			(6)	Psychological support/ communication strategies
	6.	Psvchi	atric med	lications
		a.		cantidepressants
			(1)	Clinical use
			(2)	Common causative agents - amitriptyline amoxapine, clomipramine,
			. ,	doxepin, imipramine, nortptyline
			(3)	Pharmacodynamics
			(4)	Pharmacokinetics
			(5)	Assessment findings
				(a) Early findings (dry mouth, confusion, hallucinations)
				(b) Late findings (delirium, respiratory depression, hypotension,
				hyperthermia, seizures, coma)
			4-5	(c) Cardiotoxicity - dysrhythmias
			(6)	Management
				(a) Airway and ventilation
				(b) Circulation
				(c) Non-pharmacological
				(d) Transport considerations
				i) Appropriate mode
				ii) Appropriate facility (d) Psychological support/ communication strategies
	7.	Ritos o	nd stings	(d) Psychological support/ communication strategies
		Diles a	na siings	,

- a. Common offending organisms hymenoptera, spiders, other arthropods, snakes, marine animals
- b. Pharmacodynamics
- c. Pharmacokinetics
- d. Assessment findings
- e. Management
 - (1) Airway and ventilation
 - (2) Circulation
 - (3) Pharmacological
 - (4) Non-pharmacological
 - (5) Transport considerations
 - (a) Appropriate mode
 - (b) Appropriate facility
 - (6) Psychological support/ communication strategies